alberta pork production handbook

Agdex 440/846-1
Revised April, 1991

Alberta
AGRICULTURE
Pork Industry Branch

PORK GOOD NUTRITION - GOOD CHOICE

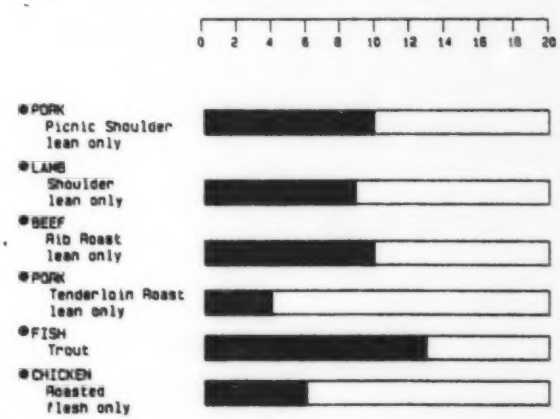
The nutritional value of a food is a key factor in the consumer's decision to buy. Today's pork is lean, tender and easy to digest. Pork is recognized as a source of high quality nutrients and is an excellent meat choice to support Canada's Guide to Healthy Eating.

Pork is lean

Dietary figures show that Canadians are now eating pork that is on an average 23 per cent leaner than 10 years ago. Some popular cuts such as loin end, rib chops and picnic shoulder roasts are even leaner.

One of the reasons for this change in pork is the grading system that rewards pork producers for rearing leaner hogs. New feeding and processing techniques and improved breeding practices have all worked to help producers keep pace with changing dietary needs.

Figure 1. Fat — grams per 90 g (3 oz) serving



Source: *Nutrient Value of Some Common Foods*, Health and Welfare Canada, 1988.

Total fat

Total fat content is similar to other meats (Table 1). In addition, less than one-third of this fat is saturated. Saturated fats have been associated with increasing cholesterol levels in the bloodstream in certain individuals.

Less fat = less calories
The low-fat content also makes pork a low calorie food choice. A 90 g portion (about 3 slices) of cooked pork shoulder (lean) provides only 200 kcal.

Cholesterol
Research carried out by Agriculture Canada has revealed that cholesterol levels in pork are similar to other red meats. Surprisingly, Canadian pork has 17 per cent less cholesterol than chicken (white meat only) and 13 per cent less than cod fish.

More advantages

Pork is an excellent source of protein, providing all eight amino acids (building blocks of protein) essential for building and repair of body tissues.

In addition, pork contributes a significant amount of available iron to the diet. In this form, the iron is easily absorbed and used by the body. Thiamin (vitamin B_1), necessary for the body to convert carbohydrate to energy as well as for the normal function of the nervous system, is another nutritonal benefit of pork.

Like most meats, fresh, unprocessed pork is also low in sodium, making it a good choice for those concerned about limiting their sodium intake.

Cooking pork

Pork has labored under many myths for too long. One of these is that it must be cooked to high temperatures in order to protect against the parasite *Trichinella spiralis*, a

small nematode worm that causes a disease called trichinosis in humans. Internal temperatures of 85°C (185°F) were recommended for years to ensure that pork was safe from this parasite.

Trichinosis has been non-existant in Canadian pork for over 20 years. Clean, sanitary conditions for production and efficient inspection methods have ensured that pork is free of this parasite. In addition, the trichinella organism is destroyed at 60°C (140°F) which is lower than today's recommended cooking temperature.

Today, food scientists have found that pork roasts cooked to a final internal temperature of 70°C (160°F) are juicier, show lower cooking loss, and are comparable in flavor and tenderness to roasts cooked to higher temperatures. Overcooking makes the meat dry and less appealing.

Pork in the microwave

In microwave ovens frozen pork thaws, fresh and cured pork cooks in a short time and pork leftovers reheat quickly without drying out. Microwaving turns out pork dishes with qualities of taste, texture and appearance unobtainable in conventional cooking.

To microwave pork roasts, tie the roast with string to prevent muscles from separating. Place the roast fat side

Table 1. Roasting chart* - 160°C (325°F) oven

Cut	Weight		Meat Thermometer Reading		Approximate Cooking Time
			Degrees		Minutes per 500 g (lb)
Fresh	kg	lb	C°	F°	
Loin roasts					
centre	1-2	3-5	70	160	30 to 35
half	2-3	5-7	70	160	35 to 40
rib end	1-2	3-4	70	160	40 to 45
rolled	1-2	3-5	70	160	35 to 40
boneless	1-2	2-4	70	160	30 to 35
Crown roast	2-3	4-6	70	160	35 to 40
Picnic shoulder					
bone in	2-4	5-8	70	160	30 to 35
rolled	1-2	3-5	70	160	35 to 40
Shoulder butt	2-3	4-6	70	160	40 to 45
Whole leg (bone in)	5-7	12-16	70	160	22 to 26
Boneless leg (butt end)	4-6	10-14	70	160	24 to 28
Half leg (bone in)	2-4	5-8	70	160	35 to 40
Tenderloin	.5	1	70	160	45 to 60
Ham (cook before eating)					
whole	4-6	10-14	70	160	18 to 20
half	2-3	5-7	70	160	22 to 25
Shank portion	1-2	3-4	70	160	35 to 40
Butt portion	1-2	3-4	70	160	35 to 40
Ham (fully cooked)**					
half	2-3	5-7	70	160	18 to 24
Picnic shoulder (cook before eating)	2-4	5-8	75	170	30 to 35
Picnic shoulder (fully cooked)	2-4	5-8	70	160	25 to 30
Cottage roll (butt)	1-2	2-4	75	170	35 to 40

*Based on meat taken directly from the refrigerator. Canadian Pork Council

**Heat "fully cooked" whole hams to 60°C (140°F) internal temperature. Allow 15 - 18 minutes per 500 g (1 pound) for heating.

COOK PORK TO AN INTERNAL TEMPERATURE OF
70°C (160°F) MEDIUM
75°C (170°F) WELL DONE
ALWAYS USE A MEAT THERMOMETER FOR TESTING.

Table 2. Microwaving chart

Cut	Weight kg	Weight lb	Microwave setting	Approximate Cooking time in minutes
Loin	1.5 - 2.5	3 - 5	medium	13 - 15
Shoulder	1.5 - 2.5	3 - 5	medium	16 - 18
Leg (shank or butt end)	2.5 - 3	5 - 6.5	medium	16 - 18
Fully cooked ham				
formed	1	2	medium	30 - 35
canned	2	4	medium	46 - 50
Ham slice centre cut	0.75	1 3/4	medium	14 - 18
Sliced ham (2 slices)				1 - 1.5
Back bacon (4-6 slices)			medium	2 - 3
(6-8 slices)				4 - 5
Side bacon	0.5	1	medium	10 - 15

down on microwave roasting rack or an inverted saucer in shallow microwave-proof baking dish. Cover loosely with waxed paper to prevent spattering. Microwave the roast at medium for half the cooking time. Rotate dish 1/4 turn; turn the roast fat-side up. Microwave, covered, at medium for the remainder of cooking time, or until the internal temperature reaches 70°C (160°F). Cover it with foil (shiny side in); check the temperature by inserting a roast meat thermometer through the foil; let stand 10 to 15 minutes. (A special microwave meat thermometer can also be purchased.)

Microwave defrosting

Defrosting times for pork are based on using a 1/3 power level or a defrost setting equivalent to 1/3 power on ovens with a variable defrost control.

- Defrost pork before cooking for best results.
- Ground pork, however, can be defrosted and cooked in one continuous sequence when recipes call for cooking ground meat before adding other ingredients.
- Remove foil wrapping and place pork in plastic or paper wrapping before defrosting.
- Microwave at DEFROST for half the minimum total time.
- Turn meat and defrost for second half of time.

Table 3. Defrosting times

Roasts	10 - 12 minutes per 0.5 kg (lb)
Chops, ribs, ground pork	4 - 8 minutes per 0.5 kg (lb)
Link sausages, weiners	3 - 4 minutes per 0.5 kg (lb)
Side or back bacon	4 - 6 minutes per 0.5 kg (lb)

- Larger irregular pieces such as roasts may require shielding of warm spots with small pieces of foil for second phase.
- After defrosting, cover and let stand to equalize temperature before cooking.

Storing pork

1. Pork in the refrigerator

Fresh pork is perishable. All fresh, cured and cooked pork should be stored in the coldest part of the refrigerator as soon as possible after purchase. Packaged meats such as ham, bacon, sausage and wieners are best kept in the package in which they were purchased. Cooked pork should be wrapped or covered and stored in the coldest part of the refrigerator within one to two hours after cooking.

2. Pork in the freezer

- Pork that will be frozen should be fresh and have clean surfaces.
- If pork has been frozen previously, it should be cooked before freezing.
- Large cuts should be cut into conveniently sized roasts before freezing.
- Package chops and ground pork patties according to the number of servings needed at each meal. A double thickness of wax paper or freezer wrap between chops and patties makes it easy to separate them later.
- Wrap meat tightly in moisture-vapor proof material such as freezer bags, double thickness of foil, or freezer wrap. The package must keep air out and moisture in.
- Label each package clearly with the date, weight and type of cut.

- Packaged meats that are purchased frozen should be kept frozen but overwrapped with a freezer wrap if they are to be frozen longer than three weeks.
- When freezing a large quantity have it frozen commercially then place it in the home freezer.

Table 4. Storage chart

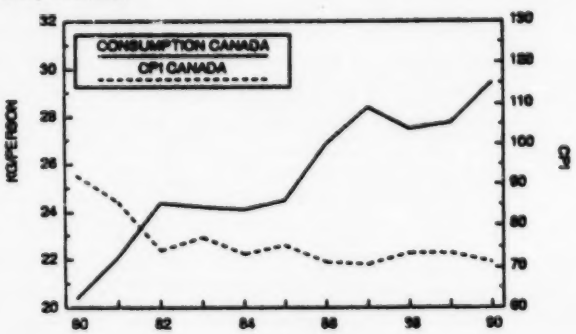
	Refrigerator 4°C (40°F) days	Freezer -18°C (0°F) months
Pork - chops	4 - 6	6 - 9
- roasts	4 - 6	6 - 9
- ground	2 - 4	2 - 3
Variety meats	1 - 2	3 - 4
Fresh sausages	2 - 3	2 - 3
Cured smoked meats, bacon	6 - 7	1 - 2
Cooked meats	3 - 4	2 - 3
Vacuum packaged cold cuts (unopened)	"best before date"	1
Cold cuts after opening	3 - 4	1

Per capita consumption

Pork consumption in Canada held steady around 22 kg per capita in 1990. Contrary to previous years, higher pork prices were not followed by a significant decline in consumption in 1990. Canadian pork prices rose by more than 8 per cent, yet consumption is projected to drop only slightly by 2 per cent.

Changing in retail merchandising have contributed to the stabilization of pork purchases. In addition, the growing consumer awareness of the nutritional value of pork and the positive association of the leaner product relative to diet and health concerns have enhanced the profile of the product.

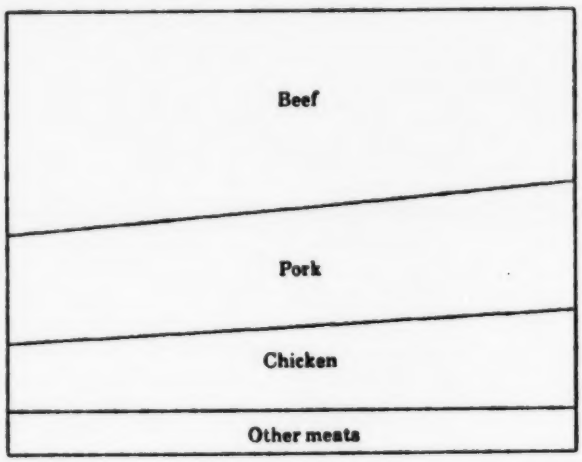
Figure 2. Retail price of porkand per capita consumption, Canada



CPI Canada 1986=100

Source: Agriculture Canada Market Commentary, Dec 1990

Figure 3. Changes in what meats Canadians eat



Source: Statistics Canada

Information prepared by:
Suzanne Tenold
Foods & Nutrition Specialist
Alberta Agriculture, Airdrie
Telephone: 948-8504

Reviewed by:
Aileen Whitmore
Provincial Food & Nutrition Specialist
Alberta Agriculture

1991 05 3.5M